

Lawrence L. Hartig
 Sean Halloran
 Hartig Rhodes Hoge & Lekisch, P.C.
 717 K Street
 Anchorage, Alaska 99501
 Phone: (907) 276-1592
 Fax: (907) 277-4352
 Firm email: mail@hartig.com
 Attorneys for Teck Cominco Alaska Incorporated

IN THE UNITED STATES DISTRICT COURT
 FOR THE DISTRICT OF ALASKA

ENOCH ADAMS, JR., LEROY ADAMS,)
 ANDREW KOENIG, JERRY NORTON,)
 DAVID SWAN, JOSEPH SWAN,)
 Plaintiffs,)

vs.)

TECK COMINCO ALASKA)
 INCORPORATED,)
 Defendant,)

NANA REGIONAL CORPORATION, and)
 NORTHWEST ARCTIC BOROUGH,)
 Intervenor-Defendants.)

Case No.: A04-00049 CV (JWS)

AFFIDAVIT OF MARK THOMPSON REGARDING TDS

Mark Thompson, being first duly sworn, states under oath as follows:

1. I am a Senior Environmental Coordinator at the Red Dog Mine for Teck Cominco Alaska, Inc. ("Teck Cominco"). I have been employed at Red Dog since November 1999, and prior to that I was a Project Manager for Montana Resources at the Continental Pit in Butte, Montana for nearly four years.

with many of the DMRs and amended DMRs that pre-date my employment with Teck Cominco since I regularly refer to them as part of my work.

36. Monitoring of stream conditions shows concentrations of TDS have not exceeded 1500 mg/L at Station 10 or at the end of the mixing zone in Mainstem Red Dog Creek (station 151) post grayling spawning season since at least the date of the filing of the complaint in this action (March 8, 2004). Concentrations of TDS have not exceeded 500 mg/L at Station 10 or at the end of the mixing zone in Mainstem Red Dog Creek (station 151) during the grayling spawning seasons since the filing of the complaint in this action.

37. Teck Cominco has implemented numerous improvements to the original system implemented in 1999 to regulate the discharge flow rate to control TDS concentrations in the Mainstem Red Dog Creek (Station 10). These upgrades are designed to ensure compliance with in-stream limits and eliminate the potential for future violations. Attached as Exhibit 2 is a true and correct copy of a document prepared or overseen by me that accurately describes the equipment and procedures used by Teck Cominco to control in-stream TDS concentrations. The improvements can be grouped into two general categories: infrastructure and experience based procedures.

- Infrastructure Improvements

- Equipment upgrades – Since the original TDS monitoring station was installed at Station 10 in 1999, nearly all the instrumentation has been upgraded as the equipment vendors have introduced new upgrades or other types of equipment have been demonstrated to be more reliable. Analog conductivity transmitters have been upgraded to digital conductivity transmitters, increasing the system's flexibility, compatibility, reliability and ease of operation. Submerged

HARTIG RHODES
HOGE &
LEKISCH, P.C.
ATTORNEYS AT LAW
717 K STREET
ANCHORAGE,
ALASKA
99501-3397
TELEPHONE:
(907) 276-1592
FAX:
(907) 277-4352

transducers monitoring fluctuations in the stream level (stream flow monitoring) were upgraded to bubbler type transducers that greatly extended cold weather operation and virtually eliminated ice fouling. Spread-spectrum radio modems were added as a redundancy to the Meteorburst telemetry for real time data transfer, eliminating disruptions in communications from atmospheric disturbances and facilitating direct communication from the monitoring station to the mill process control system.

- Redundant monitoring stations - Station 151 was established at the end of the mixing zone in Mainstem Red Dog Creek, just upstream of station 10. Station 150 was established at the end of the mixing zone in Ikalukrok Creek. Both new stations were equipped with identical instrumentation and telemetry as stations 10 and 160. Both new stations are completely capable of accurately monitoring the in-stream concentration of TDS and relaying the data back to the mine facility in real-time. There are no significant inflows into Red Dog Creek between Station 151 and Station 10, so TDS levels are virtually identical at both stations. Compliance with in-stream TDS limits at Station 151 assures compliance with the limits at Station 10; Station 151 is a true redundancy to Station 10. Teck Cominco installed Station 151 with the realization that equipment failures can occur at any time and the only way to ensure compliance with the in-stream limits and monitoring requirements was through independent redundancy.
- Road to Station 151 – A road was permitted and constructed to Station 151 to facilitate compliance monitoring of the Mainstem Red Dog Creek. Prior to the

HARTIG RHODES
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construction of the road to Station 151, monitoring of the Mainstem Red Dog Creek was limited to telemetry equipped remote monitoring stations, hiking or access via helicopter or airplane. Obviously this limits who, when and how often monitoring can occur or the monitoring stations checked and maintained. Trouble shooting remote monitoring stations can take days of hiking back and forth with various equipment, tools, heavy equipment batteries, supplies, etc. The road to Station 151 ensures that compliance with in-stream TDS limits can be monitored at any time. Even in the unlikely event that both Station 10 and Station 151 fail at the same time, road access facilitates direct measurement of in-stream TDS two or more times per day as the permit requires.

- TDS simulator – Teck Cominco has developed an algorithm based TDS simulator that uses complex trending analysis to project future in-stream TDS levels at various discharge flow rates. The algorithm even allows the operator to input current and forecasted weather effects. Throughout the last four discharge seasons (including 2005) the TDS simulator has demonstrated the capability to consistently and accurately identify appropriate discharge flow rates allowing Teck Cominco to dramatically increase its ability to maintain compliance with in-stream limits. Further, the simulator is an excellent diagnostic tool to detect problems at the remote monitoring stations before the problems could cause a non-compliance event.

- Experience Based Procedures

- Discharge philosophy – The overriding concern about the discharge at the Red Dog Mine is that an equal volume of water is discharged from the tailings

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impoundment as flows into the tailings impoundment (water balance) plus more to get rid of the accumulated 4.5 billion gallons of excess from past years when Teck Cominco did not discharge an equal volume of water. It is well recognized that continuing to accumulate additional water in the impoundment in perpetuity is not feasible and by flow proportioning the discharge flow rate to the stream flows through the use of in-stream TDS limits, the opportunities to discharge sufficient volumes of water and the historically accumulated water are infrequent. When in-stream limits were first applied, it was believed that maximizing the proportionality of discharge flow to stream flow, which results in always attempting to be right at the in-stream limits, was the key to maintaining the site-wide water balance. However, after careful evaluation of each discharge year, it was determined that maximizing the discharge in this manner was less effective at maintaining the water balance in the impoundment than being able to rapidly respond to sudden high-stream-flow events. Consequently, Teck Cominco no longer attempts to maintain maximum in-stream TDS levels, but instead uses significantly more conservative in-stream TDS targets. This change in discharge strategy greatly reduces the potential for exceedances of the in-stream limits by allowing a larger "buffer" between the limits and the level of observed TDS that triggers reduction in the discharge flow rate.

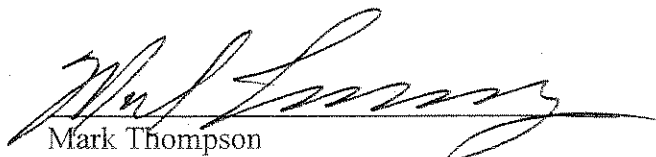
- Analytical safety factors - The TDS analytical method has an acceptable error of $\pm 4\%$. At a true concentration of 1500 mg/L TDS, any given analytical result could yield a valid result anywhere from 1440 to 1560 mg/L. Statistically, this

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FAX:
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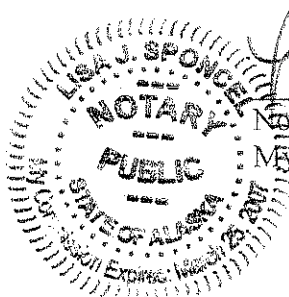
Wulik River water meets or exceeds all water quality standards strongly suggests that discharges from Red Dog Mine are not causing the water to be polluted. Evidence demonstrates that TDS levels at station 1 are actually lower during Teck Cominco's discharge season from May to October than they are when the Mine is not discharging. Attached as Exhibit 12 are true and correct copies of charts prepared by Chris Eckert of the average annual TDS concentrations at station 1.


I declare, under penalty of perjury, that the foregoing is true and correct.

Further your Affiant sayeth naught.


Mark Thompson

Subscribed and sworn to or affirmed before me at Anchorage, AK, on the 3rd day of October, 2005.




Notary Public in and for Alaska
My commission expires: 3/25/07

CERTIFICATE OF SERVICE

I hereby certify that on the 3 day of October, 2005, a true and correct copy of the foregoing was served, via First Class Mail, on the below identified parties of record:

Luke W. Cole
Center on Race, Poverty, & the Environment
450 Geary Street, Suite 500
San Francisco, California 94102

Nancy S. Wainwright
Law Offices of Nancy S. Wainwright
13030 Back Road, Suite 555

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Adams et. al. v. Teck Cominco Alaska, A04-00049 CV (JWS)

Page 27 of 28
Attachment 3

Anchorage, Alaska 99515-3538

James E. Torgerson
Heller Ehrman White & McAuliffe LLP
510 L Street, Suite 500
Anchorage, Alaska 99501-1959

David S. Case
Landye Bennett Blumstein LLP
701 W. 8th Ave., Suite 1200
Anchorage, AK 99501



Hartig Rhodes Hoge & Lekisch PC

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HARTIG RHODES
HOGE &
LEKISCH, P.C.
ATTORNEYS AT LAW
717 K STREET
ANCHORAGE,
ALASKA
99501-3397
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